Educação e Tecnologia
Education and Technology
abordagens críticas
critical approaches

Contribuições de | Contributors
Andy Cameron | Audrey Watters | Giota Alevizou | Jeremy Knox
Lesley Gourlay | Martin Weller | Neil Selwyn | Ralph Bannell
Raquel Barreto | Richard Barbrook | Richard Hall
Organização | Editors
Giselle Martins dos Santos Ferreira
Luiz Alexandre da Silva Rosado
Jaciara de Sá Carvalho

Traduções e versões | Translators
Giselle Martins dos Santos Ferreira
Marcelo Ruschel Träsel (“A Ideologia Californiana”)

Educação e Tecnologia
Education and Technology
abordagens críticas
critical approaches

1ª EDIÇÃO
1st edition

UNIVERSIDADE ESTÁCIO DE SÁ
SESES - Sociedade de Ensino Superior Estácio de Sá
Rio de Janeiro
2017
This chapter argues that data is the bleeding edge of educational innovation. By following the traces and trails of data, it is possible to uncover where education is being cracked open for the production, circulation and extraction of surplus value. In part these processes of cracking are amplified by the on-going financialisation and marketisation of higher education that continue to kettle academic practices of teaching and research. By uncovering the flows of value, it is also possible to demonstrate the transnational associations of capital that are profiting as a result of the data-driven re-imagining of higher education. This uncovers mechanisms grounded in: enforced, public and open, educational data production; the enclosure and commodification of open and public data for-profit; the selling and re-selling of newly-commodified and technology-rich services back into open and public spaces; the generation of a rentier higher education economy rooted in high technology; the use of secondary legislation or policy related to employment and entrepreneurial activity, alongside primary legislation, to drive change; the exacerbation of debt and indentured study; and, the use of technology in performance management of academic labour. The chapter articulates these processes in the context of global socio-economic and socio-environmental crises and their symptoms, and in particular the generation of academic anxiety.
Such anxiety emerges against the on-going precarity described by students and academic staff through technologically-mediated performance management. As a result, the chapter asks: what can be learned from counter-hegemonic projects, in order to describe alternative uses for educational data?

Keywords: Big Data; Commodification of Education; Academic Labour; Academic Anxiety.

I. Introduction

Flows of data reveal the restructuring of academic labour. The increasing focus on learning analytics and learning outcomes (FALLON, 2013), performance management and big data (MAYIKA et al., 2013), and the connections between taxation and educational data (DEPARTMENT FOR BUSINESS INNOVATION AND SKILLS, 2015a; MCGETTIGAN, 2015), highlight where global education is being cracked for the production and circulation of value (HALL, 2015). The data trails amplified through public policy enable us to see who is engaged in this process of educational data production. This then enables us to see who is engaged in commodifying new services, and charging rents for them, based on open and public data. Data reveals the transnational networks of dispossession that are using secondary policy, processes of entrepreneurialism, debt and indentured study, financialisation, and the assault on labour rights, to lever value (DAVIES, 2014).

These processes have ramifications for teaching, administration and research. The reframing of academic labour through performance information relates and then reduces teaching to retention, progression and achievement statistics that can be incorporated as excellence (DEPARTMENT FOR BUSINESS INNOVATION AND SKILLS, 2015b). Moreover, where the funding for education has shifted from the State to the individual, student debt
is related both to performance and to academic value. Or rather academic performance and outcomes that are recalibrated through their relation to future earnings and employability become a justification for debt (ENTERPRISE FOR ALL, 2014). As a result, education is increasingly seen as a positional, economic good framed through human capital theory or total factor productivity, rather than as a service or a civic good (SUMMERS, 2014). This pattern is reinforced through national research assessments, which link performance to funding and international league tables, and provide a means to accumulate new forms of intellectual and social capital (ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, 2016).

Technology is central to these processes of accumulation. Increasingly the use of learning analytics and performance information, visualised using dashboards as learning gain, enables the disciplining of academic labour, where that labour is the work of both staff and students (MCGRATH et al., 2015). Thus, data enables decision-making based on patterns in aggregated information about attendance or presence in physical and virtual spaces, library or resource access, assessment performance, and so on, at the level of the individual, the programme of study, and the institution. The increased use of interconnected technologies inside institutional ecosystems generates data that can be used for monitoring. The connections between mobile applications, classroom multimedia and programme management technologies like virtual learning environments and lecture capture tools, virtual content like e-books and e-journals, student record systems, and enterprise business intelligence platforms, enable student performance to be tracked (TABLEAU, 2016). This then facilitates judgements about student involvement in the curriculum, alongside the nature of curriculum engagement by academics (NEW MEDIA CONSORTIUM, 2016).

One outcome is that poor performance can be managed at various levels, in order to mitigate the financial implications of
failure. Mitigation may include formal warnings for individuals, closure of programmes, or credit-outlooks from rating agencies (MOODY’S, 2015). The relationship between performance data and risk-management has led to concerns about the impact on the well-being of staff and students, in particular in terms of their agency. Where academic life and practice is increasingly prescribed through data-driven performance management or dressage (FOUCAULT, 1975), there is potential for powerlessness and a rise in anxiety (HALL; BOWLES, 2016). This chapter analyses the relationship between the production and accumulation of educational data and academic anxiety, in order to question whether alternative uses for such data might emerge. It questions whether such alternatives might serve as a front for recuperating a higher education (HE) that is increasingly marketised and financialised (HALL, 2015), or whether such recuperation is impossible.

II. Higher education as a machine

Global narratives bear witness to the machine-like qualities of HE as it is de-territorialised and re-territorialised into something that is beyond the control of academics (CASA, 2016; CUPE, 2016; DELEUZE; GUATTARI, 1983; JUBAS, 2012). What is being made concrete is not merely the formal subsumption of teaching, learning and scholarship inside a market, but the transformation of those activities (HALL; BOWLES, 2016). This transformation is rooted in the productivity of academic labour, so that its teaching, learning and scholarship require more than the absolute extension of the social working day. They each become grounded in competition and innovation, such that productivity and ideas of intensity are central to academic work (DEPARTMENT FOR BUSINESS, INNOVATION AND SKILLS, 2014; HM TREASURY, 2015). This annihilates the possibility that the curriculum might enable individuals or communities to become self-actualised (Hooks, 1994). Instead, competition and innovation drive the annihilation of the humane content of
teaching, learning and scholarship, so that academic practice is increasingly proletarianised (MARX; ENGELS, 2002).

This process is amplified as the subsumption, or the re-engineering, of HE is encouraged as a form of creative destruction by Governments through the disaggregation of the functions of HE courses, like content production, student support, assessment and accreditation, and their relationship to research (RIZVI et al., 2013). Instead, competition is encouraged at the level of those components, which are increasingly fragmented in the production of educational outcomes, for instance, through outsourcing, sharing services or restructuring, and then reassembled in the circulation of educational value on a national or global terrain. In order to maintain competitive edge, constant upskilling is required by academics and students acting as entrepreneurs who are able to be labour-market ready, technological and impactful (MCGETTIGAN, 2015). As academics and students labour under commodity capitalism, they have to vie for a place on the market, and this makes them vulnerable to crises related to: futures-trading; access to means of production; overproduction; market-saturation; or an inability to access credit markets. Hence the very real impact of finance capital in creating a higher education market based on catalysing new systems of production, alongside constant organisational development or technological innovation, leaves universities at risk (MCGETTIGAN, 2015; NEWFIELD, 2012).

Overcoming such financialised and market-driven risks means that universities increasingly reflect globalised power structures rooted in further colonisation for value production, circulation and accumulation. Such hegemonic structures are transnational associations of capitals that form geographies of neoliberalism (BALL, 2012; ROBINSON, 2004). These networks consist of academics and think-tanks, policy-makers and administrators, finance capital and venture capital and private equity, educational publishers, and philanthro-capitalists. Their aim is to regulate the
State and the institutions that are structured by it, like universities, for the market, for enterprise, and for-profit (HALL, 2014; SZADKOWSKI, 2016). The involvement of multiple speculators tends to fragment academic practices further, de-territorialising them so that what emerges is alienated labour-power, with control over the means of academic production residing transnationally rather than at a local level. This then drives a process of proletarianisation that is reinforced through mechanisms like the Transatlantic Trade and Investment Partnership, and documented for instance through processes of casualisation (CASA, 2016).

The hegemonic narrative shaping these mechanisms is of enhancing the student experience, where that experience is framed around human capital theory and the future earnings or productivity potential of a degree. Friedman (1955) argued the importance of this:

[Education is] a form of investment in human capital precisely analogous to investment in machinery, buildings, or other forms of non-human capital. Its function is to raise the economic productivity of the human being. If it does so, the individual is rewarded in a free enterprise society by receiving a higher return for his services.

The re-emergence of human capital theory in terms that are structural (inside education) and secular (across the economy) has catalysed an increasing obsession with data about the functions of HE, alongside interpretations that are rooted in metrics operating nationally and internationally (ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, 2016). This drives an idea of HE as an export-led industry through internationalisation and the creation of commodity skills and services through knowledge transfer (HALL, 2015; NEWFIELD, 2010). In this way, HE is re-engineered as a machine for the production of value (UNIVERSITIES UK, 2015). Innovations in curriculum design, delivery and
assessment become sites for the generation of new services or commodities that serve as new parts of a mechanic whole. In this technology-rich process the division of labour between students, administrators and academics is reinforced, and the intensity and number of working hours are increased (MARX; ENGELS, 2002). Where the production of value is a fusion of, first, humanity made productive and efficient, and second, renewed capital infrastructure, the space and time of the university can be made to operate cybernetically, as self-regulating and machine-like.

III. The university and its data

In her essay on the anxieties of big data, Crawford (2014) connects the surveillance of our lives, judgements about their productivity or intensity, and the psychological terrains that are opened-up or internalised inside us. In her argument, the lived realities of big data and learning analytics map onto the signalisation that Foucault (1975) analysed as being recorded and amplified across organisations, in order to engender new forms of dressage. In the university, dressage is the ways in which academics and students respond to technological monitoring, in terms of hyper-activity and conformity, or non-conformity and resistance. This is the ways in which they address the monitoring of their practices or functions on a systemic level. The processes of signalisation and dressage feed-off anxiety, just as they create it. For Crawford (2014)

[...] the lived reality of big data is suffused with a kind of surveillant anxiety — the fear that all the data we are shedding every day is too revealing of our intimate selves but may also misrepresent us. Like a fluorescent light in a dark corridor, it can both show too much and not enough. Anxiety, as Sianne Ngai has written, has a temporality that is future oriented: it is an expectation emotion, and the expectation is generally of risk,
exposure, and failure. British group Plan C in their blistering manifesto “We Are All Very Anxious” argue that anxiety is the dominant affect of our current phase of capitalism, engendering political hopelessness, insecurity, and social separation.

Yet, whilst the implementation of big data projects across HE recognises the social and political-economic construction of both the means of capturing data and the algorithms that interpret them (Davies, 2015), they are grounded in a mythology of evidence-based truth (CRAWFORD, 2014; FALLON, 2013; RIZVI et al., 2013).

The fusion of technology, data and academic practices is being reinterpreted as scalable co-operation (MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 2016), and might be discussed in terms of cybernetics (TIQQUN, 2001). Across educational terrains, a cybernetic description articulates how flows of management information like psychometric test outcomes and workload data, performance metrics like retention and progression data, and enriched use of technologies to manage research and teaching, attempt to reduce all academic activities to flows that take place in real-time, through structures that are always-on, with feedback and inputs that are ‘just in time’. As a result, the University, like any other capitalist business, attempts to abolish time. Technologies and techniques are designed to accelerate production, to remove labour-related barriers, and to destroy the friction of circulation time.

However, there are concrete, historical and material examples of alternative cybernetic approaches. Miller Medina (2005) highlighted how the Allende Government in Chile attempted to utilize technology and data through cybernetics to create a new representation of society beyond the market, using different, co-operative organizing principles. The key for Miller Medina (2005, p. 17) was to describe ‘not just a technological history but a history of the changing social networks that connected these technologies to
the function of the state and its management.’ She argues (2005, p. 96) that under Allende and then Pinochet technological and technocratic ideas are a means to ‘solidify a particular articulation of the state that was supported by new claims to legitimate power.’ For Allende, this was about democratic renewal and ‘a deliberate effort to hand to the people the power that science commands, in a form in which the people can themselves use it’ (MILLER MEDINA, 2005, p. 252).

Such examples describe possibilities for using data beyond the market and the financialisation of academic labour. However, such alternatives depend upon the ways in which academics and students working socially can use data for co-operative practices, in response to specific socio-environmental crises. They also depend upon the ways in which the fragmented nature of academic practice, reinforced through data signalisation and dressage, can be overcome. The mechanisms by which established hierarchies maintain their power through financialisation and information-sharing need to be described, and alternative positions developed. At present, the reality of data collection and analysis inside the university is to intensify research, administration, teaching and learning, in order to drive efficiency and productivity. However, this also means less trust in the unprogrammable human, and more trust in the objectified, programmable and knowable data. This drive for efficiency is also a means to ensure the domination of constant capital and infrastructure, and the power of organisational development and technology. These ensure that constant innovation in the motive parts of the university-as-machine determine the on-going extraction and circulation of surpluses, whatever the cost.
IV. The university as an anxiety machine

Social relations are increasingly technically-mediated inside educational organisations, which then re-produce socio-political hierarchies that are technological, coercive and exploitative. This set of characteristics is driven by the competitive dynamics of capitalism, and especially the ways in which the socially necessary character of the labour-power expended in producing a particular commodity or innovation or technology is diminished over-time. This reduces the value of knowledge and specific immaterial skills in the market, resulting in a persistent demand to innovate, to become entrepreneurial, or to hold and manage proprietary or creative skills (DAVIES, 2014; HALL, 2015).

The battle against depreciation and to maintain value has been amplified inside a global politics of austerity that has generated qualitatively new levels of uncertainty and anxiety, and increasing alienation (HAIVEN; KHASNABISH, 2014; JAPPE, 2014). One result is that we risk developing a new depressive position through which despair restricts our autonomy, because teachers internalise data-driven forms of performativity, entrepreneurialism and control (DAVIES et al., 2015; ROBERTSON, 2007), and students internalise the financialised realities of a degree as a positional good. The induced behaviour is only made congruent with our inner beings through sanctions, surveillance or performance management. In the process, we also internalise or refuse to recognise the loss of what we hoped the University might become. For many, the overwhelming feeling is one of hopelessness, evidenced in the emergence of academic quit lit (MORRIS, 2015), and stories of the damage of casualisation. This requires a different level of grief and mourning to be internalised, so that we can address our alienation and lack of autonomy in an authentic manner.

The logic of the data points towards academic labour becoming increasingly proletarianised, so that academics and students are
exposed to the realities of competition and the fluctuations of open markets (MARX; ENGELS, 2002). Marx (1844) argued that this is the logic of capitalism, which defenestrates labour in order that it can accumulate autonomy:

Is then only the semblance of an activity, only a forced activity, imposed upon me only by an external and accidental necessity and not by an internal and determined necessity... My labour, therefore, is manifested as the objective, sensuous, perceptible, and indubitable expression of my self-loss and my powerlessness.

This is a world that reduced to an atomised, powerless existence, in which our spaces, places, identities, and relationships are all means of extracting value or hoarding wealth. The processes for defining such means of production are data-driven, and objectified as evidence-based truths without analysing the political economic and social context in which they are borne. Thus, in the face of constant technological and organisational restructuring, new forms of performance management stretch the limits of our alienation (MARX; ENGELS, 1998). As the limits to the creation of value can only be overcome spatially through new markets or through labour intensification, Capital changes the very terrain on which we operate. As Berardi argues (2009, p. 73) a networked universe emerges with a generative logic that is codified by both data and the conditioning of cognition, affects, emotions and relationships.

What does not belong to a codified domain is not socially recognizable or relevant, although it still exists in the domain of irrelevance, of residuality. It then reacts with rage and despair, in order to violently reassert its existence.
For Marcuse (1964, p. 159) the emergent hopelessness is a function of our technological instrumentalisation: ‘The liberating force of technology – the instrumentalization of things – turns into a fetter of liberation; the instrumentalization of man.’ Instrumental control, enacted through the internalisation and adoption of automatic operational systems, forces us to incorporate negative internal objects. These are the anxieties of the University as a node in a system of production, incorporated and projected onto others. Competition, entrepreneurialism, and data-driven performance become behavioural norms that shape the temporalities of academic practices. Moreover, these practices are controlled through cultures of *omertà*, or the silence of those who know that they are being forced to compete, and that to do so they must co-operate. Thus both academics and students embody the uncertainties encoded in the very structure of academia: the nature of their labour; the products of their labour; the division of their labour; their co-operative or competitive relationship to society; and their relationship to themselves (HALL; BOWLES, 2016).

This embodiment of constant innovation and re-engineering reproduces a sense of anxiety as a permanent state of exception inside academic teams and individuals. The focus on productivity and efficiency, the socially necessary labour time of abstract academic work, and the entrepreneurial turn across HE, collectively shape an atmosphere of performance anxiety. The reproduction of anxiety emerges from inside the University as a means of production that is governed by metrics, data and debt, and out of which value is scraped through processes of impact or excellence that alienate. This is a terrain of elite institutions consuming and competing, and of individual’s competing for educational positionality, future earnings and employability.

These competitive urges form desires, and the risk that these might remain unfulfilled catalyses further de-territorialisation of education and its re-territorialisation through the data supplied to
the market (DELEUZE; GUATTARI, 1983). For The Institute for Precarious Consciousness (2014), anxiety has become the linchpin of subordination across the whole of social reproduction. In academic terms this includes: first, an individual’s teaching intensity, including their class contact, turnaround times for assessment, and developing an online pedagogic presence; second, an individual’s administrative intensity, including developing strategies for improving student satisfaction or teaching excellence scores, work on committees, and engagement with business process re-engineering; and third, research intensity, including delivering and monitoring the impact and reach, and targets for scholarly outputs and knowledge transfer.

Throughout these processes our work is shrouded in data that enables performance management to the point where developing a counter-hegemonic position feels hopeless. Deleuze and Guattari (1983) wrote that our own, concrete educational desires for emancipation, are subsumed and disfigured by the abstracted desires of the machine. That recognising that the true liberation of our concrete desires, against their bastardisation as data about future earnings, employability and enterprise, requires that we rethink our re-production of the machine, and its anxious control (HALL; BOWLES, 2016).

V. What is to be done?

The growth of technological and entrepreneurial activity inside and against the University forms a way for capital to leverage the ratio of the total surplus-value produced in society to the total capital invested. Educational innovation also enables a redistribution of surplus value from businesses that produce commodities or services like universities to those that market them or that lend money to make academic labour productive. Therefore, it becomes important to analyse the role of innovation in
revolutionising the means of production and in proletarianising the University. One signal that this is occurring is Pearson Publishing’s focus on ‘doubling the amount of really high value learning [at no extra total cost]’ through: being more global; being more mobile; thinking holistically; being absolutely obsessed with learning outcomes (FALLON, 2014).

The generation of a counter-hegemonic position asks that we relate our desires to what has been taken from our public education and sequestered as private-property. This asks us to re-imagine HE and the University as a form of desiring activity that is against the State and the market, and which is against the performance management of our lives through competition. Remembering Allende, academics and students need to make deliberate efforts to hand to the people the power that science commands, in a form in which the people can themselves use it. This connects to the idea of mass intellectuality, or the recognition of our common ability to produce or create, based on our needs and capacities, and rooted in a social recognition of what needs to be done (VIRNO, 2001; VERCELLONE, 2007). This is the dissolution of the skills, capacities and capabilities of academic life into the fabric of society, rather than privileging them inside institutions (UNIVERSITY OF UTOPIA, n.d.).

For The Institute for Precarious Consciousness (2014), this subversive activity requires

[...] a machine for fighting anxiety – and this is something we do not yet have. If we see from within anxiety, we haven’t yet performed the ‘reversal of perspective’ as the Situationists called it – seeing from the standpoint of desire instead of power.

They argue that across differing yet connected terrains, including the University and its networks or geographies (where it functions as an association of capitals), we need to connect the
structural source of problems to personal experiences. This demands the public sharing of experiences that can generate new grounded theory based on the reality and the systemic nature, of alienation. In this public sharing, the legitimation of voice and subjective experience is central to de-naturalising and challenging hegemonic assumptions. Challenging the reference points of truth and reality that are codified through performance data and enterprise business intelligence, is central to this process. This then connects to the ability to locate new spaces for generating radical perspectives, which then reframe what data are collected and why, and their analytical frame-of-reference. Thus, an alternative objective use for academic data would analyse and theorise data from the bottom-up, grounded in experience, in ways that enable new perspectives to emerge.

Such new perspectives act as a basis for new forms of struggle against the market and the attrition of HE as a public or civic good. They suggest that in order to overcome the loss of time and agency, and the stripping away of curriculum-power, educational intellect and pedagogical capacities, academics and students need to insert themselves differently into the anxiety-machine. Here emerges a consideration of how to resist the subsumption of the university further into the re-production of a system of alienation that exists beyond HE, rather than simply to protect academic labour as privileged, skilled, crafted, abstracted work. Such resistances are about social rather than occupational displacement, precisely because the terrain of higher education has become a means for the re-production of specific, alienating desires across society. This is collective work to liberate the forces of production, which is enabled by revealing and recomposing our social relations. Moreover, such work uses data and information for counter-hegemonic pedagogical purposes that point beyond market-intelligence and performance management. It flows from students and academics into society through collective work that is a form of academic machine-breaking, because it seeks to reconnect and
recombine the division of academic labour into its social whole for a different purpose.

Refusing the proletarianisation of the University hinges on the creation of a ‘direct form of communal manifestations of life carried out in association with others – [that] are therefore an expression and confirmation of that social life’ (MARX, 1975, p. 299). This might be realised in spaces that incorporate increasingly alienated social forces in the global North, as well as those largely ignored in the global South. However, it requires that we have a more mature discussion of the possibilities for pedagogic production as a social activity that are for-society rather than for-profit. In part this recognises that HE is folded into the circuits of capitalism precisely because no space is more important for the generation and accumulation of the knowledge, practices and skills produced co-operatively at the level of society, as ‘mass intellectuality’ (HALL, 2014; UNIVERSITY OF UTOPIA, n.d.; VERCHELONE, 2007; VIRNO, 2001). Situating educational data inside a critical political economy of higher education might offer a way of developing an emancipatory critical pedagogy that is relevant to local contexts, and supports grounded solutions to specific issues. This includes the ways in which technology and data shape the processes of proletarianisation, in order to articulate alternatives purposes and uses for those data. Such a critical pedagogy might then enable the knowledge, practices and skills produced socially and co-operatively inside HE to underpin new social relations of production as a pedagogic project beyond the market.

References


BERARDI, F. The soul at work: from alienation to autonomy. Los Angeles: Semiotext(e), 2009.
PERFORMANCE INFORMATION AND DATA-DRIVEN ACADEMIC ANXIETY ...


About the author

RICHARD HALL

Professor of Education and Technology at De Montfort University, Leicester, UK. At DMU he is Co-Director of the Institute for Education Futures. Richard is a UK National Teaching Fellow, a co-operator at the Social Science Centre in Lincoln, UK, and a Trustee of the Open Library of Humanities. He writes about life in Higher Education at Richard Hall’s Space.